

State of California
California Regional Water Quality Control Board, Los Angeles Region

~~TENTATIVE~~ RESOLUTION NO. 02-~~XX~~017

October 24, 2002

**Amendment to the Water Quality Control Plan for the Los Angeles Region to
include a TMDL for Nitrogen Compounds and Related Effects in Calleguas Creek**

**WHEREAS, the California Regional Water Quality Control Board, Los Angeles
Region, finds that:**

1. The federal Clean Water Act (CWA) requires the California Regional Water Quality Control Board (Regional Board) to develop water quality standards which include beneficial use designations and criteria to protect beneficial uses for each water body found within its region.
2. The Regional Board carries out its CWA responsibilities through California's Porter-Cologne Water Quality Control Act and establishes water quality objectives designed to protect beneficial uses contained in the Water Quality Control Plan for the Los Angeles Region (Basin Plan).
3. Section 303(d) of the CWA requires states to identify and to prepare a list of water bodies that do not meet water quality standards and then to establish load and waste load allocations, or a total maximum daily load (TMDL), for each water body that will ensure attainment of water quality standards and then to incorporate those allocations into their water quality control plans.
4. Calleguas Creek was listed on California's 1998 section 303(d) list, due to impairment for nitrogen compounds and their effects that do not protect the most sensitive beneficial uses of the water body.
5. A consent decree between the U.S. Environmental Protection Agency (USEPA), Heal the Bay, Inc., and BayKeeper, Inc. was approved on March 22, 1999. The court order directs the USEPA to complete TMDLs for all the Los Angeles Region's impaired waters within 13 years.
6. The elements of a TMDL are described in 40 CFR 130.2 and 130.7 and section 303(d) of the CWA, as well as in USEPA guidance documents (e.g., USEPA, 1991). A TMDL is defined as "the sum of the individual waste load allocations for point sources and load allocations for nonpoint sources and natural background" (40 CFR 130.2). Regulations further stipulate that TMDLs must be set at "levels necessary to attain and maintain the applicable narrative and numeric water quality standards with seasonal variations and a margin of safety that takes into account any lack of knowledge concerning the relationship between effluent limitations and water quality" (40 CFR 130.7(c)(1)). The regulations in 40 CFR 130.7 also state that

August 30, 2002
Revised: October ~~24~~18, 2002

TMDLs shall take into account critical conditions for stream flow, loading and water quality parameters.

7. Upon establishment of TMDLs by the State or USEPA, the State is required to incorporate the TMDLs along with appropriate implementation measures into the State Water Quality Management Plan (40 CFR 130.6(c)(1), 130.7). The Basin Plan, and applicable statewide plans serve as the State Water Quality Management Plans governing the watersheds under the jurisdiction of the Regional Board.
8. Calleguas Creek is located in Ventura County, California. It reaches from the Simi Hills east of the City ~~of~~ Simi Valley to Mugu Lagoon south of ~~the City of~~ Oxnard.
9. The Regional Board's goal in establishing the above-mentioned TMDL is to maintain the warm water fish and wildlife habitat (WARM, WILD) and groundwater recharge (GWR) beneficial uses of Calleguas Creek as established in ~~the~~ Basin Plan. Additionally, ammonia is known to cause toxicity to aquatic organisms.
10. Interested persons and the public have had reasonable opportunity to participate in review of the amendment to the Basin Plan. Efforts to solicit public review and comment include ten public workshops held between January 1999 and February 2002; public notification 45 days preceding the Board hearing; and responses from the Regional Board staff to oral and written comments received from the public.
11. The amendment is consistent with the State Antidegradation Policy (State Board Resolution No. 68-16), in that the changes to water quality objectives (i) consider maximum benefits to the people of the state, (ii) will not unreasonably affect present and anticipated beneficial use of waters, and (iii) will not result in water quality less than that prescribed in policies. Likewise, the amendment is consistent with the federal Antidegradation Policy (40 CFR 131.12).
12. The basin planning process has been certified as functionally equivalent to the California Environmental Quality Act requirements for preparing environmental documents and is, therefore, exempt from those requirements (Public Resources Code, ~~s~~Section 21000 et seq.), and the required environmental documentation and CEQA environmental checklist have been prepared.
13. The proposed amendment results in no potential for adverse effect (de minimis finding), either individually or cumulatively, on wildlife.
14. The regulatory action meets the "Necessity" standard of the Administrative Procedures Act, Government Code, section 11353, subdivision (b).
15. The Basin Plan amendment incorporating a TMDL for nitrogen compounds and related effects for the Calleguas Creek watershed must be submitted for review and approval by the State Water Resources Control Board (State Board), the State Office of Administrative Law (OAL), and the US Environmental Protection Agency

(USEPA). The Basin Plan amendment will become effective upon approval by OAL and USEPA. A Notice of Decision will be filed. |

THEREFORE, be it resolved that pursuant to Section 13240 and 13241 of the Water Code, the Regional Board hereby amends the Basin Plan as follows:

1. Pursuant to sections 13240 and 13241 of the California Water Code, the Regional Board, after considering the entire record, including oral testimony at the hearing, hereby adopts the amendment to Chapter 7 the Water Quality Control Plan for the Los Angeles Region to incorporate the elements of the Calleguas Creek Nitrogen Compounds and Related Effects TMDL as set forth in Attachment A hereto.
2. The Executive Officer is directed to forward copies of the Basin Plan amendment to the SWRCB in accordance with the requirements of section 13245 of the California Water Code.
3. The Regional Board requests that the SWRCB approve the Basin Plan amendment in accordance with the requirements of sections 13245 and 13246 of the California Water Code and forward it to OAL and the USEPA.
4. If during its approval process the SWRCB or OAL determines that minor, non-substantive corrections to the language of the amendment are needed for clarity or consistency, the Executive Officer may make such changes, and shall inform the Board of any such changes.
5. The Executive Officer is authorized to sign a Certificate of Fee Exemption.
6. Amend the text in the Basin Plan, Plans and Policies (Chapter 5) to add:

"Resolution No. ~~02-XX~~02-017. Adopted October 24, 2002.
'Amendment to include a TMDL for Nitrogen Compounds and Related Effects for Calleguas Creek'
The resolution proposes a TMDL for nitrogen compounds and related effects in Calleguas Creek."
7. The Basin Plan amendment set forth in Attachment A shall only become effective if the water quality objectives revised by Regional Board Resolution 2002-011, or equivalent water quality objectives, have been approved by the OAL and USEPA, and are consistent with the TMDL.

I, Dennis A. Dickerson, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of a resolution adopted by the California Regional Water Quality Control Board, Los Angeles Region, on October 24, 2002.

Dennis A. Dickerson
Executive Officer

Attachment A to Resolution No. 02-~~017~~XX |**Proposed Amendment to the Water Quality Control Plan – Los Angeles Region****to Incorporate the****Calleguas Creek Nitrogen Compounds and Related Effects TMDL**

Proposed for adoption by the California Regional Water Quality Control Board, Los Angeles Region on October 24, 2002.

Amendments**Table of Contents**

Add:

Chapter 7. Total Maximum Daily Loads (TMDLs) Summaries

7-7 Calleguas Creek Nitrogen Compounds and Related Effects TMDL

List of Figures, Tables, and Inserts

Add:

Chapter 7. Total Maximum Daily Loads (TMDLs)

Tables

7-7 Calleguas Creek Nitrogen Compounds and Related Effects TMDL

7-7.1. Calleguas Creek Nitrogen Compounds and Related Effects TMDL:
Elements

7-7.2. Calleguas Creek Nitrogen Compounds and Related Effects TMDL:
Implementation Schedule

Chapter 7. Total Maximum Daily Loads (TMDLs) Summaries**Calleguas Creek Nitrogen Compounds and Related Effects TMDL**

This TMDL was adopted by:

The Regional Water Quality Control Board on [~~Insert Date~~ October 24, 2002]. |

The State Water Resources Control Board on [Insert Date].

The Office of Administrative Law on [Insert Date].

The U.S. Environmental Protection Agency on [Insert Date].

The following table summarizes the key elements of this TMDL.

August 30, 2002

Revised: October ~~24~~2, 2002 |

Table 7-7.1. Calleguas Creek Nitrogen Compounds and Related Effects TMDL: Elements

Element	Calleguas Creek Nitrogen Compound and Related Effects
<i>Problem Statement</i>	Elevated nitrogen concentrations (ammonia, nitrite and nitrate) are causing impairments of the warm water fish and wildlife habitat, and groundwater recharge beneficial uses of Calleguas Creek. Nitrite and nitrate contribute to eutrophic effects such as low dissolved oxygen and algae growth. Ammonia contributes to toxicity.
<i>Numeric Target</i> <i>(Interpretation of the numeric water quality objective, used to calculate the load allocations)</i>	<p>This TMDL has numeric targets, expressed as ammonia, nitrite and nitrate concentrations, based on the water quality objectives set forth in the Basin Plan. These objectives are set forth in Chapter 3 of the Basin Plan and updated criteria for ammonia promulgated by EPA in 1999. The numeric targets for ammonia (chronic) range from 1.7 mg/L to 3.5 mg/L and from 3.2 mg/L to 9.5 mg/L (acute) depending on location. The oxidized nitrogen targets are 10 mg/L for nitrate-N, 1 mg/L for nitrite-N, and 10 mg/L for nitrite-N+nitrate-N. The pH target ranges from 6.5 to 8.5, and the dissolved oxygen target is an average of 7 mg/L but not less than 5 mg/L.</p> <p>Numeric targets to address narrative objectives required to protect warm freshwater and wildlife habitat are believed to be sufficient to implement the narrative objectives and may be revised based on the results of monitoring and studies conducted pursuant to the implementation plan.</p>
<i>Source Analysis</i>	The principal sources of nitrogen into Calleguas Creek are discharges from the POTWs in the watershed and runoff from agricultural activities in the watershed.
<i>Linkage Analysis</i>	Linkage between nitrogen sources and the in-stream water quality was established through a mass continuity model based on an evaluation of recent hydrodynamic and water quality data.

Table 7-7.1. Calleguas Creek Nitrogen Compounds and Related Effects TMDL: Elements (cont'd)

Element	Calleguas Creek Nitrogen Compounds and Related Effects																																								
Waste Load Allocations (for point sources)	<p>The Basin Plan Amendment clearly identifies the TMDLs and all load and wasteload allocations. The numeric target using the entire historical record, proposed waste load allocations (WLAs) are listed as follows:</p> <table><tr><th>POTWs</th><th>Ammonia AMEL*</th><th>NO₃-N</th><th>NO₂-N</th><th>NO₃-N+NO₂-N</th></tr><tr><td></td><td>(mg/L)</td><td>(mg/L)</td><td>(mg/L)</td><td>(mg/L)</td></tr><tr><td>• Hill Canyon WWTP</td><td>3.14</td><td>9.0</td><td>0.9</td><td>9.0</td></tr><tr><td>• Simi Valley WQCP</td><td>2.35</td><td>9.0</td><td>0.9</td><td>9.0</td></tr><tr><td>• Moorpark WWTP</td><td>2.63</td><td>9.0</td><td>0.9</td><td>9.0</td></tr><tr><td>• Camarillo WRP</td><td>3.50</td><td>9.0</td><td>0.9</td><td>9.0</td></tr><tr><td>• Camrosa WWTP</td><td>2.98</td><td>9.0</td><td>0.9</td><td>9.0</td></tr><tr><td>• Olsen Rd. WRP</td><td>N/A</td><td>N/A</td><td>N/A</td><td>N/A</td></tr></table> <p>The ammonia objective is based on the average monthly effluent limit as calculated in accordance with the Resolution 02-011. It is noted that for compliance purposes, Resolution 02-011 also provides maximum daily effluent limits. Calculation of the maximum daily effluent limit is provided in the Staff Report</p>	POTWs	Ammonia AMEL*	NO ₃ -N	NO ₂ -N	NO ₃ -N+NO ₂ -N		(mg/L)	(mg/L)	(mg/L)	(mg/L)	• Hill Canyon WWTP	3.14	9.0	0.9	9.0	• Simi Valley WQCP	2.35	9.0	0.9	9.0	• Moorpark WWTP	2.63	9.0	0.9	9.0	• Camarillo WRP	3.50	9.0	0.9	9.0	• Camrosa WWTP	2.98	9.0	0.9	9.0	• Olsen Rd. WRP	N/A	N/A	N/A	N/A
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Load Allocation (for non point sources)	<p>The source analysis indicates that an agricultural discharge is the major non-point source of oxidized nitrogen to Calleguas Creek and its tributaries. This source is particularly significant in Revolon Slough and other agricultural drains in the lower Calleguas watershed where there are no point sources of ammonia and oxidized nitrogen. Load allocations for non-point sources are:</p> <table><tr><th>Nonpoint Source</th><th>Nitrate-N + Nitrite-N (mg/L)</th></tr><tr><td>Agriculture</td><td>9.0</td></tr><tr><td>Other Nonpoint Source</td><td>9.0</td></tr></table>	Nonpoint Source	Nitrate-N + Nitrite-N (mg/L)	Agriculture	9.0	Other Nonpoint Source	9.0																																		
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Implementation	<ol style="list-style-type: none">1. Refer to Table 7-7.22. Several of the POTWs in the Calleguas Creek watershed will require additional time to meet the oxidized nitrogen (nitrate, nitrite, and nitrate + nitrite) waste load allocations. To allow time for completion of denitrification facilities which are integral to this TMDL, the amendment to the Basin Plan made by this TMDL allows for higher interim loads that translate as the interim effluent limits as follows for a period of four years																																								

* AMEL: Average monthly effluent limitation

Element	Calleguas Creek Nitrogen Compounds and Related Effects																								
	<p>from the effective date of the TMDL:</p> <ul style="list-style-type: none"><table><tr><th><u>POTWs</u></th><th colspan="2"><u>Interim Limits</u> * for Nitrate-N + Nitrite-N</th></tr><tr><th></th><th>Monthly Average</th><th>Daily Maximum</th></tr><tr><th></th><th>(mg/L)</th><th>(mg/L)</th></tr><tr><td>• Hill Canyon WWTP</td><td>36.03</td><td>38.32</td></tr><tr><td>• Simi Valley WQCP</td><td>31.60</td><td>32.17</td></tr><tr><td>• Moorpark WWTP</td><td>31.5</td><td>32.01</td></tr><tr><td>• Camarillo WRP</td><td>36.23</td><td>37.75</td></tr><tr><td>• Olsen Rd. WRP</td><td>N/A</td><td>N/A</td></tr></table><p>*The monthly average and daily maximum interim limits are based on the 95th and 99th percentiles of effluent performance data reported in the Calleguas Creek Characterization Study</p><p><u>3. The wasteload allocations for ammonia will be applicable on the effective date of the TMDL. Interim limits for ammonia will be applicable for no more than 2 years starting from October 24, 2002 for POTWs that are not able to achieve immediate compliance with the assigned waste load allocations. The interim limits for ammonia may be established at the discretion of the Regional Board when a POTW's NPDES permit is reissued.</u></p>	<u>POTWs</u>	<u>Interim Limits</u> * for Nitrate-N + Nitrite-N			Monthly Average	Daily Maximum		(mg/L)	(mg/L)	• Hill Canyon WWTP	36.03	38.32	• Simi Valley WQCP	31.60	32.17	• Moorpark WWTP	31.5	32.01	• Camarillo WRP	36.23	37.75	• Olsen Rd. WRP	N/A	N/A
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Margin of Safety	An implicit margin of safety is incorporated through conservative model assumptions and statistical analysis. In addition, an explicit margin of safety is incorporated by reserving 10% of the load, calculated on a concentration basis from allocation to POTW effluent sources.																								
Seasonal Variations and Critical Conditions	A low flow critical condition is identified for this TMDL based on a review of flow data for the past twenty years. This flow condition was identified because less assimilative capacity is available to dilute effluent discharge.																								

Table 7-7.2. Implementation Schedule

IMPLEMENTATION TASKS, MILESTONES AND PROVISIONS*		COMPLETION DATE
1.	WLA for ammonia apply to POTWs.	Effective Date of TMDL
2.	Interim Limits for nitrate+nitrite apply to POTWs.	
3.	Formation of Nonpoint Source BMP Evaluation Committee.	
4.	Submittal of Non Point Source Monitoring Workplan by Calleguas Creek Watershed Management Planning Committee. <u>This monitoring is to evaluate nutrient loadings associated with agricultural drainage and other nonpoint sources. The monitoring program will include both dry and wet weather discharges from agricultural, urban and open space sources. In addition, groundwater discharge to Calleguas Creek will also be analyzed for nutrients to determine the magnitude of these loading and the need for load allocations. A key objective of these studies will be to determine the effectiveness of agricultural BMPs in reducing nutrient loadings. Consequently, flow and analytical data for nutrients will be required to estimate loadings from non-point sources.</u>	1 year after Effective Date of TMDL
5.	Submittal of Watershed Monitoring Workplan by Calleguas Creek Watershed Management Planning Committee. <u>In addition to the analytical parameters and flow data requirements, the watershed monitoring program will establish sampling locations from which representative samples can be obtained, including all listed tributaries. Monitoring results will be compared to the numeric instream targets identified in this</u>	

* The Calleguas Creek Watershed Management Plan – Water Resources/Water Quality (CCWMP) Subcommittee has offered to complete tasks 4 through 9 and 11. In the event the CCWMP Subcommittee fails to timely complete these tasks, the Regional Board will consider whether to amend this Implementation Plan to assign tasks to responsible dischargers in the regulatory approach. The Regional Board also reserves its right to take any other appropriate actions including, but not limited to, exercising its authorities under Water Code section 13267.

IMPLEMENTATION TASKS, MILESTONES AND PROVISIONS*		COMPLETION DATE
6.	<p><u>TMDL to determine the effectiveness of the TMDL. Data on the extent and distribution of algal mats, scum and odors will be included in the watershed monitoring. The data will be used to provide further verification of the model and refine the TMDL to address nutrient effects as appropriate.</u></p> <p>Submittal of Special Studies Workplan by Calleguas Creek Watershed Management Planning Committee.</p> <p><u>These special studies include:</u></p> <p><u>Monitoring of minor point sources for nutrients to confirm assumptions that the loadings from these sources are minor;</u></p> <p><u>Monitoring of greenhouse discharges and runoff to assess loadings from these sources;</u></p> <p><u>Monitoring of groundwater extraction and discharges in the Arroyo Santa Rosa subwatershed and other areas that may add significant nutrient loadings to Calleguas Creek; and</u></p> <p><u>Additional studies of the type and extent of algae impairment in Calleguas Creek and Mugu Lagoon.</u></p>	
7.	Complete Special Studies for minor sources, greenhouses, and groundwater loadings.	3 years after Effective Date of TMDL
8.	Completion of ammonia WER studies.	
9.	Complete planning and preparation for construction of TMDL remedies to reduce non-point source nitrogen loads.	
10.	Interim Limits for nitrate+nitrite expire and WLAs for nitrate, nitrite, nitrate+nitrite apply to POTWs.	4 years after Effective Date of TMDL
11.	Complete Special Studies for algae impairments of Calleguas Creek, its tributaries and Mugu Lagoon.	5 years after Effective Date of TMDL
12.	Regional Board consideration of revised water quality objectives for nitrogen compounds based on monitoring data, special studies, and ammonia WER, if appropriate.	6 years after Effective Date of TMDL
13.	Final achievement of ammonia and oxidized nitrogen standards.	7 years after Effective Date of TMDL

